



SDMS Doc ID 2000782

2000782

The Boeing Company
6633 Canoga Avenue
P.O. Box 7922
Canoga Park, CA 91309-7922

CERTIFIED MAIL

November 21, 2003
In reply refer to 2003RC4212



Gerard Abrams
Calif. Environmental Protection Agency
Dept. of Toxic Substances Control
Region 1
Facility Permitting Branch
8800 Cal Center Drive
Sacramento CA 95826-3200

Subject: Santa Susana Field Laboratory Corrective Action Program Quarterly
Progress Reports for EPA ID Numbers CAD093365435 (Rocketdyne),
CA1800090010 (NASA) and CAD000629972 (DOE)

Dear Mr. Abrams:

The Boeing Company, Rocketdyne (Rocketdyne) has enclosed the following progress reports as required by Hazardous Waste Facility Post-Closure Permits for Rocketdyne and NASA at the Santa Susana Field Laboratory (SSFL). In addition, Rocketdyne has included a progress report for the DOE Corrective Action sites in Area IV. Rocketdyne has submitted the reports in the format as it appears in Attachment I of the Rocketdyne and NASA permits. This reporting period is from August 16, 2003 through November 15, 2003.

Should you have any comments, please do not hesitate to let me know. I can be reached at (818) 586-5695.

Sincerely,

A handwritten signature in black ink, appearing to be "Art Lenox", written over a horizontal line.

Art Lenox
Environmental Remediation

AJL:dr
Enclosures

(SHEA-098594)

G. Abrams (2003RC04212)

November 21, 2003

Page 2

cc: A. Elliott/NASA (with enclosures)
D. Hambrick/MWH (with enclosures)
S. Baxter/DTSC (with enclosures)
P. Batarseh/DTSC (with enclosures)
P. Bailey/DTSC (with enclosures)
K. Baker/DTSC (with enclosures)
S. Clark/ Haley & Aldrich (with enclosures)
M. Lopez/DOE/OAK (with enclosures)
J. Beach/EPA (with enclosures)
R. Marshall/CSUN, Oviatt Library (with enclosures)
D. Redfield/Simi Valley Library (with enclosures)
J. Metzler/LA Public Library, Platt Branch (with enclosures)



**Santa Susana Field Laboratory
RFI and CMS Projects
Quarterly Progress Report
EPA ID No. CAD000629972 (Department of Energy)**

Rocketdyne Project Manager:	Art Lenox
Contractor Project Manager:	Dixie Hambrick
Report Period:	August 16 – November 15, 2003

1. PROGRESS MADE THIS REPORT PERIOD

Soil vapor and soil matrix sampling was performed at DOE sites during this period for the RCRA Facility Investigation (RFI). The majority of this field effort was for investigation of the Building 56 Landfill (SWMU 7.1) RFI site and at several transformer locations. MWH collected a total of 144 soil matrix/bedrock /surface water, and 90 soil vapor samples at three DOE sites and transformer locations during this reporting period (Table 1). Soil matrix sample analysis was conducted by the California-certified laboratories Del Mar Analytical, located in Irvine, and at Ceimic Corporation, located in Rhode Island. To date, approximately 136 soil vapor (136 analyses) and 234 soil matrix/surface water samples (1288 analyses) have been collected from DOE locations during the RFI program (Table 2).

Near-surface groundwater sampling was not conducted this period (Table 1). To date, approximately 48 groundwater samples (152 analyses) have been collected from DOE locations during the RFI program (Table 2). Preparation of the Near-Surface Groundwater Characterization Report continued. This report will be comprehensive of the near-surface groundwater investigation findings at the SSFL.

The Building 56 Landfill (SWMU 7.1) investigation was conducted this period. DTSC was onsite several times during the landfill investigation to inspect progress and field conditions, and sampling protocols.

Industrial hygiene indoor air sampling was performed after work plan approval by DTSC. These data were collected to support the Environmental Indicators (EI) review.

The revised draft Standardized Risk Assessment Methodology (SRAM) Work Plan, Surficial Operable Unit, was submitted for DTSC review this period and meetings held regarding actions required to finalize this document.

Preparation of the draft Former Sodium Disposal Facility (FSDF) (SWMU 7.3) RFI report continued. The draft Area IV Leach Fields (Area IV AOC) RFI report was completed and submitted to DTSC.

DTSC, Rocketdyne, and MWH met several times this period to discuss the Building 56 investigation, EI review, RFI near-surface groundwater and soil investigations, risk

assessment methodology, and DTSC Hazardous Materials Laboratory (HML) data validation of the RFI samples.

Validation of recent soil and water samples and conducting a program quality assurance (QA) review of soil sampling data are ongoing.

Infiltration monitoring continued at FSDF (SWMU 7.3) this period.

2. SUMMARY OF FINDINGS

Asbestos-containing materials (ACM) and elevated concentrations of polychlorinated biphenyls (PCBs) were found in a limited portion of the Building 56 Landfill. The majority of the landfill was comprised of fills soil and bedrock. Sampling data from the transformer investigation is pending.

3/4 SUMMARY OF PROBLEMS/ACTIONS TAKEN

None.

5. PROJECT ACTIVITY NEXT PERIOD

Boeing will be involved with the following RFI activities during the next period:

- Continue data validation for DOE sites
- Complete Near-Surface Groundwater Report
- Finalize the draft Surficial OU SRAM, Revision 1
- Preparation of the Building 56 Landfill RFI report
- Finalize and submit the FSDF (SWMU 7.3) draft RFI site report
- Prepare the Hazardous Materials Storage Area (Area IV AOC) draft RFI site report
- Continue Infiltration Monitoring at FSDF

6. PERSONNEL CHANGES

None.

7. SUMMARY OF CONTACTS

None.

8. TREATMENT SYSTEM EFFECTIVENESS

No soil remediation treatment systems are in place or operational at this time.

9. DATA REPORTS SUBMITTED

DOE Leach Fields RCRA Facility Investigation Report, Santa Susana Field Laboratory,
Ventura County, California. *Draft*. October.

Table 1
DOE Sampling Summary
August 16, 2003 - November 15, 2003

UNIT	Facility	MATRIX	Total Samples	Total Analyses	PCBs, 8080/8082	SVOA, 8270SIM	TPH, 8015	8015, Soil Vapor	Metals 6010B/7000	VOA, 8260	Perchlorate	PH, 9040/9045	Asbestos
Non RFI Site	Transformer Samples	S	5	5	5	0	0	0	0	0	0	0	0
Area IV AOC	SNAP	S	2	2	2	0	0	0	0	0	0	0	0
SWMU 7.1	Bldg 56 Landfill	S	69	375	62	61	59	0	59	58	2	56	18
SWMU 7.1	Bldg 56 Landfill	V	90	90	0	0	0	44	0	46	0	0	0
SWMU 7.1	Bldg 56 Landfill	W	66	90	4	4	4	0	4	18	52	4	0
SWMU 7.4	Old Conservation	S	2	2	2	0	0	0	0	0	0	0	0
Total Soil		S	78	384	71	61	59	0	59	58	2	56	18
Total Vapor		V	90	90	0	0	0	44	0	46	0	0	0
Total Water		W	66	90	4	4	4	0	4	18	52	4	0
TOTAL			234	564	75	65	63	44	63	122	54	60	18
S = Soil	W = includes surface water and leachates												
V = Vapor													
Note - includes QA samples (water, soil, vapor); does not include samples on hold.													

Table 2
RFI Sampling Summary
August 16, 2003 - November 15, 2003

RPI Soil Matrix Sampling Analysis Summary																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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**Santa Susana Field Laboratory
RFI and CMS Projects
Quarterly Progress Report
EPA ID No. CA1800090010 (NASA)**

Rocketdyne Project Manager:	Art Lenox
Contractor Project Manager:	Dixie Hambrick
Report Period:	August 16 – November 15, 2003

1. PROGRESS MADE THIS REPORT PERIOD

Soil and soil vapor sampling was performed during this period for the RCRA Facility Investigation (RFI). The majority of this field effort was for investigation of the Area II Landfill (SWMU 5.1), the Former Liquid Oxygen (LOX) RFI sites, and several transformer locations. MWH collected a total of 28 soil matrix/surface water, and 123 soil vapor samples at six NASA sites during this reporting period (Table 1). Soil matrix and surface water sample analysis was conducted by the California-certified laboratories Del Mar Analytical, located in Irvine, and at Ceimic Corporation, located in Rhode Island. Soil vapor analysis was performed onsite by Centrum Laboratory, using a California-certified mobile laboratory from Redlands, California. To date, approximately 524 soil vapor (549 analyses) and 785 soil matrix/surface water samples (1412 analyses) have been collected from NASA locations during the RFI program (Table 2).

Near-surface groundwater sampling was not conducted this period (Table 1). To date, approximately 81 groundwater samples (131 analyses) have been collected from NASA locations during the RFI program (Table 2). Preparation of the Near-Surface Groundwater Characterization Report continued. This report will be comprehensive of the near-surface groundwater investigation findings at the SSFL.

DTSC comments regarding the Area II Landfill (SWMU 5.1) investigation work plan were received in September and the work plan revised and resubmitted for DTSC approval. This work plan was approved and the initial phase of the investigation completed during early November (backfill of trenches are pending sample results). DTSC was onsite several times during the landfill investigation to inspect progress and field conditions.

Industrial hygiene indoor air sampling was performed after work plan approval by DTSC. These data were collected to support the Environmental Indicators (EI) review.

The revised draft Standardized Risk Assessment Methodology (SRAM) Work Plan, Surficial Operable Unit, was submitted for DTSC review this period and meetings held regarding actions required to finalize this document.

A work plan for Building 203 drainage interim measures work plan was prepared and submitted to DTSC for review and approval this period.

DTSC, Rocketdyne, and MWH met several times this period to discuss the EI review, RFI near-surface groundwater and soil investigations, risk assessment methodology, and DTSC Hazardous Materials Laboratory (HML) data validation of the RFI samples.

Validation of recent soil and water samples and conducting a program quality assurance (QA) review of soil sampling data are ongoing.

2. SUMMARY OF FINDINGS

Confirmation soil vapor sampling at the LOX RFI site detected elevated concentrations of volatile organic compounds (VOCs). Soil vapor sampling did not detect elevated VOCs at the Area II Landfill RFI site. Sampling data from the transformer investigation is pending.

3/4 SUMMARY OF PROBLEMS/ACTIONS TAKEN

None.

5. PROJECT ACTIVITY NEXT PERIOD

Boeing will be involved with the following RFI activities during the next period:

- Continue data validation for NASA sites
- Complete Near-Surface Groundwater Report
- Finalize the Surficial OU SRAM, Revision 1
- Backfill Area II Landfill investigation trenches; prepare for additional field work following the rainy season

6. PERSONNEL CHANGES

None.

7. SUMMARY OF CONTACTS

None.

8. TREATMENT SYSTEM EFFECTIVENESS

No soil remediation treatment systems are in place or operational at this time.

9. DATA REPORTS SUBMITTED

RCRA Facility Investigation Work Plan Addendum Amendment, Area I and Area II
Landfills Investigation Work Plan, SWMU 4.2 and 5.1, Santa Susana Field
Laboratory, Ventura County, California. *Revised Final*. October.

Building 203 Drainage Interim Measures Work Plan, Santa Susana Field Laboratory,
Ventura County, California. September.

Table 1
NASA Sampling Summary
August 16, 2003 - November 15, 2003

UNIT	Facility	MATRIX	Total Samples	Total Analyses	PCBs 8080/8082	SVOA, 8270SIM	TPH, 8015	8015B	Metals 6010B/7000	VOA, 8260	Perchlorate	PH, 9040/9045	Mercury 7471A
Area II AOC	Coca/Delta FF	S	5	5	5	0	0	0	0	0	0	0	0
SWMU 4.5/6	LOX Area	V	57	57	0	0	0	0	0	57	0	0	0
SWMU 5.1	Area II Landfill	S	11	37	6	6	6	0	6	9	1	3	0
SWMU 5.1	Area II Landfill	V	66	80	0	0	0	39	0	41	0	0	0
SWMU 5.1	Area II Landfill	W	3	3	0	0	0	0	0	0	3	0	0
SWMU 5.18/19	Coca Area	S	2	2	2	0	0	0	0	0	0	0	0
SWMU 5.2	ELV (CTL-II)	S	4	4	1	0	0	0	0	0	0	0	3
SWMU 5.2	ELV (CTL-II)	W	1	1	0	0	0	0	0	0	1	0	0
SWMU 5.9/10/11	Alfa Area	S	2	2	2	0	0	0	0	0	0	0	0
Total Water		W	4	4	0	0	0	0	0	0	4	0	0
Total Soil		S	24	50	16	6	6	0	6	9	1	3	3
Total Vapor		V	123	137	0	0	0	39	0	98	0	0	0
TOTAL			151	191	16	6	6	39	6	107	5	3	3
S = Soil	W = includes surface water and leachates												
V = Vapor													
Note - does not include samples on hold.													

Table 2
RPI Sampling Summary
August 18, 2003 - November 15, 2003

RFI Soil Matrix Sampling Analysis Summary																																								
OWNER/OPERATOR	Total Samples	Total Analytes	VOA, #200	TPH, #015	VOA, #021A	SVOC, #270SIM	SVOC, #270	Metals, #0107000	Mercury, #471A	Methyl Mercury	Silver, #701	Lead	Beryllium	Hex Cr, #7100	Fluoride, #40.2	ANIONS, 300	PH, #0400045	PCBs, #0000012	PCBs, #000	Form, #ASTMD18	Pesticide, 300MD14.0	Tributyl Sn	Dioxin, #200	Dioxin, #0135	Hydrazine	Ordinance, #330	SPUP, #1312	Asbestos	LIPIDS	TOC	Arsenic	PAH, #010	1,4-Dioxane, #260SIM	Gross Alpha/Beta, #00.0	Gamma Spec, #01.1	Deuterium	Oxygen 18	TDS	TSS	PAH, #20M
Rocketdyne	3240	8264	268	1208	848	848	214	1277	119	3	10	24	15	104	175	217	850	220	18	193	1523	2	127	10	14	171	78	0	2	8	49	2	11	5	5	19	19	7	18	5
NASA	785	1412	187	378	183	90	18	144	75	2	20	1	0	10	10	19	87	56	8	16	29	0	50	11	0	1	5	5	0	3	0	1	13	7	7	5	5	8	0	10
DOE	234	1268	87	210	50	188	13	212	3	0	1	0	0	2	17	9	178	125	1	0	82	0	52	0	0	4	6	50	0	0	0	0	2	2	2	2	1	0	1	
Total	4259	10984	542	1794	849	904	245	1833	197	5	31	25	15	116	202	245	1095	401	27	209	1644	2	229	21	14	176	89	55	2	11	49	3	24	14	14	26	26	16	18	16
Notes: Soil, water only - no vapor No Task 203 samples (LUFT) No Borehole samples No Bell Canyon samples Includes all Ogden/MWH samples at RFI sites - June 96 thru present																																								
RFI Soil Vapor Sampling Analysis Summary																																								
OWNER/OPERATOR	Total Active SV Samples	Total Dilutions	Total Active SV Analytes	Total PSV Samp/Anal	Total SV Samples	Total SV Analytes																																		
Rocketdyne	1178	102	1282	8	1186	1290																																		
NASA	510	19	535	14	524	549																																		
DOE	136	0	136	0	136	136																																		
Total	1824	121	1953	22	1846	1975																																		
Notes: Includes HGS, CAL analyses (no TEG) Includes all Ogden/MWH samples at RFI sites - June 96 thru present Four Active SV analyses performed by Method TO-14A, all remaining analyses performed by Method #200, modified for vapor																																								
RFI Biotic Sampling Analysis Summary																																								
OWNER/OPERATOR	Total Samples	Total Analytes	SVOC, #270CSIM	Metals, #0100/471A	PCBs, #000	Dioxin, #0135	LIPIDS																																	
Rocketdyne	20	42	8	0	12	2	20																																	
NASA	25	87	12	24	13	13	28																																	
DOE	0	0	0	0	0	0	0																																	
Total	45	129	20	24	25	15	48																																	
Notes: Includes all Ogden/MWH samples at RFI sites - June 96 thru present																																								
RFI Near-Surface Groundwater Sampling Analysis Summary																																								
OWNER/OPERATOR	Total Samples	Total Analytes	VOA, #200	TPH, #015	SVOC, #270SIM	Metals, #0107000	Arsenic	PCBs, #002	Pesticide, 300M	1,4-Dioxane, #260SIM	Dioxin, #200	Gross Alpha/Beta, #00.0	Gamma Spec, #01.1	Tritium, #00.0	Nitrate	TDS	Ordinance, #330	Hex Cr, #7100																						
Rocketdyne	201	313	158	18	19	18	3	6	45	25	6	7	1	1	0	0	5	1																						
NASA	81	131	72	18	10	11	0	0	6	8	2	1	0	1	1	1	0	1																						
DOE	48	152	32	17	13	15	0	3	6	0	0	23	23	23	0	0	0	0																						
Total	330	596	262	53	42	44	3	9	57	34	8	36	23	23	1	1	5	1																						
Notes: Includes all Ogden/MWH samples at RFI sites - June 96 thru present Gross Alpha/Beta analyses from 2001 also included on table																																								

**Santa Susana Field Laboratory
RFI and CMS Projects
Quarterly Progress Report
EPA ID No.CAD 093365435 (Rocketdyne)**

Rocketdyne Project Manager:	Art Lenox
Contractor Project Manager:	Dixie Hambrick
Report Period:	August 16 – November 15, 2003

1. PROGRESS MADE THIS REPORT PERIOD

Soil, soil vapor, surficial bedrock, and surface water sampling was performed during this period for the RCRA Facility Investigation (RFI). The majority of this field effort was for perchlorate characterization in the Happy Valley and Building 359 RFI sites (Area I Areas of Concern [AOCs]), investigation of the Area I Landfill RFI site (SWMU 4.2), and several transformer locations (Table 1). This work was performed in support of and during the Happy Valley/Building 359 interim measures (HVIM). Perchlorate sampling also occurred in the northern drainage of the SSFL. MWH collected a total of 1307 soil matrix/bedrock /surface water, and 69 soil vapor samples at 13 Rocketdyne sites and the northern drainage during this reporting period (Table 1). Soil matrix and surface water sample analysis was conducted by the California-certified laboratories Del Mar Analytical, located in Irvine, and at Ceimic Corporation, located in Rhode Island. Soil vapor analysis was performed onsite by Centrum Laboratory, using a California-certified mobile laboratory from Redlands, California. To date, approximately 1186 soil vapor (1290 analyses) and 4547 soil matrix/bedrock/surface water samples (8283 analyses) have been collected from Rocketdyne locations during the RFI program (Table 2).

Near-surface groundwater sampling was not conducted this period (Table 1). To date, approximately 201 groundwater samples (313 analyses) have been collected from Rocketdyne locations during the RFI program (Table 2). Preparation of the Near-Surface Groundwater Characterization Report continued. This report will be comprehensive of the near-surface groundwater investigation findings at the SSFL.

An Amendment to the HVIM work plan was prepared and submitted to DTSC in August 2003 for review. Additional perchlorate sampling data and information was also provided to DTSC for the HVIM on September 17, 2003. DTSC approved the HVIM plan and field work began in early October 2003. Preparation of a work plan detailing the biotreatment design began; this work plan will be submitted to DTSC prior to initiation of that phase of work.

DTSC comments regarding the Area I Landfill (SWMU 4.2) investigation work plan were received in September and the work plan revised and resubmitted for DTSC approval. This work plan was approved and the investigation completed during October and early November (backfill of trenches are pending sample results).

DTSC was onsite several times during the HVIM and landfill investigation to inspect implementation, field protocols, and collect soil split samples.

Industrial hygiene indoor air sampling was performed after work plan approval by DTSC. These data were collected to support the Environmental Indicators (EI) review.

The revised draft Standardized Risk Assessment Methodology (SRAM) Work Plan, Surficial Operable Unit, was submitted for DTSC review this period and meetings held regarding actions required to finalize this document.

DTSC, Rocketdyne, and MWH met several times this period to discuss the HVIM, EI review, RFI near-surface groundwater and soil investigations, risk assessment methodology, and DTSC Hazardous Materials Laboratory (HML) data validation of the RFI samples.

Validation of recent soil and water samples and conducting a program quality assurance (QA) review of soil sampling data are ongoing.

2. SUMMARY OF FINDINGS

Perchlorate was detected in soil leachate, surficial bedrock, and/or surface water samples collected at the Happy Valley and Building 359 RFI sites (Area I AOCs). These areas have been previously identified as known perchlorate use sites at the SSFL. Laboratory analyses and data review of sample results are continuing. Soil vapor sampling did not detect elevated VOCs at the Area I Landfill RFI site. Soil sampling data from the Area I landfill and transformer investigations are pending.

3/4 SUMMARY OF PROBLEMS/ACTIONS TAKEN

None.

5. PROJECT ACTIVITY NEXT PERIOD

Boeing will be involved with the following RFI activities during the next period:

- Continue data validation for Rocketdyne sites
- Complete Northern Drainage Sampling Technical Memorandum
- Complete Perchlorate Source Evaluation and Technical Report Update
- Complete Near-Surface Groundwater Report
- Finalize the draft Surficial OU SRAM, Revision 1

- Begin preparation of the Area I Landfill RFI report
- Finalize and submit to DTSC a Work Plan for Biotreatment of Perchlorate in Soil for the HVIM
- Complete excavation and begin biotreatment for the HVIM project

6. PERSONNEL CHANGES

None.

7. SUMMARY OF CONTACTS

None.

8. TREATMENT SYSTEM EFFECTIVENESS

No soil remediation treatment systems are in place or operational at this time. Next period, biotreatment of HVIM will begin after permits are obtained.

9. DATA REPORTS SUBMITTED

Happy Valley Interim Measures Work Plan Addendum and Amendment, Happy Valley and Building 359 Areas of Concern, Santa Susana Field Laboratory, Ventura County, California. August.

RCRA Facility Investigation Work Plan Addendum Amendment, Area I and Area II Landfills Investigation Work Plan, SWMU 4.2 and 5.1, Santa Susana Field Laboratory, Ventura County, California. *Revised Final*. October.

Table 1
Rocketdyne Sampling Summary
August 16, 2003 - November 15, 2003

UNIT	Facility	MATRIX	Total Samples	Total Analyses	PCBs 8080/8082	SVOA, 8270SIM	TPH, 8015	Total Active SV Samples	Dioxin, 8290	Metals 6010B/7000	Ordinance, 8330	VOA, 8260	Hex. Cr, 7196	ANIONS, 300	PERCHLORAT E	ph, 9040/9045	Mercury 7471A	Arsenic	Lead	Beryllium	Tss
Area I AOC	Building 359	S	125	343	2	48	41	0	5	66	41	8	19	0	16	41	40	16	0	0	0
Area I AOC	Building 359	W	184	185	0	0	0	0	0	0	0	0	1	0	184	0	0	0	0	0	0
Area I AOC	Happy Valley	R	45	45	0	0	0	0	0	1	0	0	0	0	44	0	0	0	0	0	0
Area I AOC	Happy Valley	S	231	258	4	0	0	0	2	180	0	0	0	0	7	0	0	31	21	13	0
Area I AOC	Happy Valley	W	498	523	0	0	0	0	0	14	0	0	0	4	496	0	4	1	0	0	4
Various	Northern Drainage	W	22	22	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0
SWMU 4 2	Area I Landfill	S	106	445	72	72	71	0	0	72	0	72	0	0	16	70	0	0	0	0	0
SWMU 4 2	Area I Landfill	V	69	84	0	0	0	42	0	0	0	42	0	0	0	0	0	0	0	0	0
SWMU 4 2	Area I Landfill	W	74	83	0	2	2	0	0	2	0	9	0	0	66	0	2	0	0	0	0
SWMU 4 12	LET/CTL-I	S	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWMU 4 15/AOC	Bowl Area	S	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWMU 4 16	Area I Reservoir (R-1)	S	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWMU 4 3/4/AOC	Inst /Equip Lab	S	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWMU 4 7	CTL-III	S	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWMU 6 1	ECL	S	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWMU 6 5	STL-IV	S	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWMU 6 9	EEL	S	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWMU 7 10	Bldg 5, PDU	S	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Surficial bedrock		R	45	45	0	0	0	0	0	1	0	0	0	0	44	0	0	0	0	0	0
Total Soil		S	482	1066	98	120	112	0	7	318	41	80	19	0	39	111	40	47	21	13	0
Total Water		W	778	813	0	2	2	0	0	16	0	9	1	4	768	0	6	1	0	0	4
Total Vapor		V	69	84	0	0	0	42	0	0	0	42	0	0	0	0	0	0	0	0	0
TOTAL			1374	2008	98	122	114	42	7	335	41	131	20	4	851	111	46	48	21	13	4
S = Soil	W = includes surface water and leachates																				
V = Vapor	R = Surficial Bedrock																				
Note does not include samples on hold																					

Table 2
RFL Sampling Summary
August 18, 2003 - November 15, 2003

RFI Soil Matrix Sampling Analysis Summary																																								
OWNER/OPERATOR	Total Samples	Total Analyses	VOA, 8260	TPH, 8015	VOA, 8021A	SVOC, 8270CSIM	SVOC, 8270	Metals, 8010/7000	Mercury, 7471A	Methyl Mercury	Silver, 7781	Lead	Beryllium	Hex Cr, 7198	Fluoride, 340.2	ANIONS, 300	PH, 90409045	PCBs, 80008082	PCBs, 1698	Form, ASTM D19	Perchlorate, 300M314.0	Tributyl Sn	Dioxin, 8290	Dioxin, 1613B	Hydrazine	Ordinance, 8330	SPLP, 1312	Asbestos	LIPIDS	TOC	Arsenic	PAH, 8310	1,4-Dioxane, 8260SIM	Gross Alpha/Beta, 900.0	Gamma Spec, 901.1	Deuterium	Oxygen 18	TDS	TSS	PAH, 228M
Rocketdyne	3240	8284	268	1208	646	648	214	1277	119	3	10	24	15	104	175	217	850	220	18	193	1523	2	127	10	14	171	78	0	2	8	49	2	11	5	5	19	19	7	18	5
NASA	785	1412	187	378	153	80	18	144	75	0	20	1	0	10	30	19	67	56	8	18	29	0	50	11	0	1	5	5	0	3	0	1	13	7	7	5	5	8	0	10
DOE	234	1288	87	210	50	166	13	212	3	0	1	0	0	2	17	8	178	125	1	0	82	0	52	0	0	4	6	50	0	0	0	0	0	0	2	2	2	2	1	0
Total	4259	10984	542	1794	849	904	245	1633	197	3	31	25	15	118	202	245	1095	401	27	209	1644	2	229	21	14	176	89	55	2	11	49	3	24	14	14	26	26	18	18	
Notes:																																								
Soil, water only - no vapor			No Eco Samples																																					
No Task 203 samples (LUFT)			No background samples																																					
No Ball Canyon samples			No samples on hold																																					
Includes all Ogden/MWH samples at RFI sites - June 98 thru present																																								
RFI Soil Vapor Sampling Analysis Summary																																								
OWNER/OPERATOR	Total Active SV Samples	Total Dilutions	Total Active SV Analyses	Total PSV Samp/Anal	Total SV Samples	Total SV Analyses																																		
Rocketdyne	1178	102	1282	8	1186	1290																																		
NASA	510	19	535	14	524	549																																		
DOE	136	0	136	0	136	136																																		
Total	1824	121	1953	22	1846	1975																																		
Notes:																																								
Includes HGS, CAL analyses (no TEG)			Includes Gore analyses, no dilutions required																																					
Includes all Ogden/MWH samples at RFI sites - June 98 thru present																																								
Four Active SV analyses performed by Method TO-14A, all remaining analyses performed by Method 8260, modified for vapor																																								
RFI Biotic Sampling Analysis Summary																																								
OWNER/OPERATOR	Total Samples	Total Analyses	SVOC, 8270CSIM	Metals, 8010/8271A	PCBs, 1698	Dioxin, 1613B	LIPIDS																																	
Rocketdyne	20	42	8	0	12	2	20																																	
NASA	25	87	12	24	13	13	25																																	
DOE	0	0	0	0	0	0	0																																	
Total	45	129	20	24	25	15	45																																	
Notes:																																								
Includes all Ogden/MWH samples at RFI sites - June 98 thru present																																								
RFI Near-Surface Groundwater Sampling Analysis Summary																																								
OWNER/OPERATOR	Total Samples	Total Analyses	VOA, 8260	TPH, 8015	SVOC, 8270SIM	Metals, 8010/7000	Arsenic	PCBs, 8082	Perchlorate, 300M	1,4-Dioxane, 8260SIM	Dioxin, 8290	Gross Alpha/Beta, 900.0	Gamma Spec, 901.1	Tritium, 906.0	Nitrate	TDS	Ordinance, 8330	Hex Cr, 7198																						
Rocketdyne	201	313	158	18	18	18	3	6	45	25	6	7	1	1	0	0	5	1																						
NASA	81	131	72	18	10	11	0	0	6	9	0	1	0	1	0	0	0	0																						
DOE	48	152	32	17	13	15	0	3	0	0	0	0	22	22	0	0	0	0																						
Total	330	596	262	53	42	44	3	9	57	34	6	36	23	23	1	1	5	1																						
Notes:																																								
Includes all Ogden/MWH samples at RFI sites - June 98 thru present																																								
Gross Alpha/Beta analyses from 2001 also included on table.																																								